

APR 09 2009

K083705
page 1 of 3

510(k) Summary of Safety and Effectiveness

Manufacturer: Smiths Medical
Address: N7 W22025 Johnson Drive
Waukesha, WI 53186

Telephone Number: (262) 542-3100
Fax Number: (262) 542-3325
Contact Person: Donald Alexander
Director Regulatory Affairs
Date Prepared: March 27, 2009

Proprietary Name: BCI® model WW1020 Pulse Oximeter
Common/Classification Name: Pulse Oximeter
Product Code: DQA
Regulation Number: 870.2700 (Class II)
Predicate Devices: Masimo SET Radical pulse oximeter (K040214)
BCI® Autocorr model 3304 pulse oximeter (K070732)
BCI® MiniCorr model 3402 pulse oximeter (K991410)

Device Description:

The aim of this submission is to obtain market clearance for the BCI model WW1020 pulse oximeter.

The BCI® model WW1020 pulse oximeter is intended for spot-check applications. The WW1020 monitors and displays patient functional oxygen saturation (%SpO₂), pulse rate, pulse amplitude index, and pulse signal strength information. It does not have audible or visual patient alarms. The user interface includes a blue LED display and an ON/OFF button.

The WW1020 comes with disposable AA batteries, the 3044S reusable pulse oximetry sensor and relevant manuals. Optional accessories include other oximetry sensors, docking station, thermal printer (attaches to dock), rechargeable battery pack, universal mains AC charger, patient isolated USB cable, universal mounting bracket and protective glove. The WW1020 is compatible with BCI® oximetry sensors, Nellcor DS100A oximetry sensor, and extension cables.

Indications for Use

The BCI® model WW1020 pulse oximeter is intended for spot-checking applications (non-continuous use). It monitors and displays a patient's functional oxygen saturation (%SpO₂), pulse rate, pulse signal strength, and pulse amplitude index readings. It may be used by physicians, respiratory therapists, nurses, certified nurse assistants, emergency medical technicians, sleep technicians, clinicians and home users. The intended patient population ranges from neonatal to adult. It can be used on patients with low perfusion

or during patient motion. The WW1020 may be used in the hospital or clinical environment, during emergency land transport, and in the home.

Risk Mitigation Table

Below is a summary of risks common to pulse oximeters and how this submission addresses those risks.

Identified Risk	Mitigation Measures
Inadequate Device Performance	Accuracy Testing (Section 11) Benchtop Performance Testing (Section 9) Software Documentation and Testing (Section 8)
Electrical or Mechanical Failure	Electrical, Mechanical, and Environmental Testing (Section 9)
Electromagnetic Interference	Electromagnetic Compatibility Testing (Section 9)
Adverse Tissue Reactivity	Biocompatibility Information (Section 10)
Cross-contamination or Infection	Cleaning and Disinfection Testing (Section 9)
Improper Use	Labeling (Section 7)

An in-depth risk management analysis, including mitigation measures, was performed on the BCI WW1020 system. The results are provided under Section 5.

Performance Testing

The BCI WW1020 pulse oximeter passed all performance bench top testing including EMC, electrical, mechanical durability, safety (operator and patient), and temperature/humidity. Test reports, including test protocols, pass/fail criteria, results and conclusions, are provided under Section 9.

Clinical Testing

The Digital Micro Power OEM oximeter board (31402B2) is a satellite board capable of monitoring a patient's SpO₂ level, pulse rate and plethysmogram waveform. The Digital Micro Power OEM oximeter board is the pulse oximetry board in the BCI WW1020 pulse oximeter. This board has undergone three separate desaturation clinical studies: Desat 37, Desat 38, and Desat 39. The intent of the Desat Studies 37 and 38 was to determine the SpO₂ accuracy of the pulse oximeter module using various sensors over the range 70-100% SaO₂ as determined by the reference CO-oximeter. The intent of Desat Study 39 was to obtain clinical data to determine the SpO₂ accuracy over the range 70-100% SaO₂ as determined by a reference CO-oximeter under controlled motion conditions.

Conclusion

Supporting information per this premarket submission confirms that the BCI® WW1020 pulse oximeter is substantially equivalent to its predicate devices.

This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR 807.92.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration
9200 Corporate Boulevard
Rockville MD 20850

APR 09 2009

Mr. Donald Alexander
Director Regulatory Affairs
Smiths Medical PM, Incorporated
N7 W22025 Johnson Drive
Waukesha, Wisconsin 53186-1856

Re: K083705

Trade/Device Name: BCI® Model WW1020 Pulse Oximeter
Regulation Number: 21 CFR 870.2700
Regulation Name: Oximeter
Regulatory Class: II
Product Code: DQA, DPZ
Dated: March 27, 2009
Received: March 30, 2009

Dear Mr. Alexander:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Center for Devices and Radiological Health's (CDRH's) Office of Compliance at (240) 276-0120. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding postmarket surveillance, please contact CDRH's Office of Surveillance and Biometric's (OSB's) Division of Postmarket Surveillance at 240-276-3474. For questions regarding the reporting of device adverse events (Medical Device Reporting (MDR)), please contact the Division of Surveillance Systems at 240-276-3464. You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (240) 276-3150 or at its Internet address <http://www.fda.gov/cdrh/industry/support/index.html>.

Sincerely yours,

Anthony D. Avaton, Jr.
Susan Runner, D.D.S., MA
Acting Director
Division of Anesthesiology, General Hospital,
Infection Control and Dental Devices
Office of Device Evaluation
Center for Devices and Radiological Health

Enclosure

Indications for Use

510(k) Number (if known): K083705

Device Name: BCI® Model WW1020 Pulse Oximeter

Indications for Use:

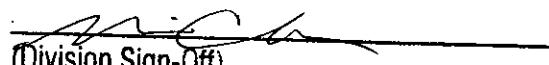
The BCI® model WW1020 pulse oximeter is intended for spot-checking applications (non-continuous use). It monitors and displays a patient's functional oxygen saturation (%SpO₂), pulse rate, pulse signal strength, and pulse amplitude index readings. It may be used by physicians, respiratory therapists, nurses, certified nurse assistants, emergency medical technicians, sleep technicians, clinicians and home users. The intended patient population ranges from neonatal to adult. It can be used on patients with low perfusion or during patient motion. The WW1020 may be used in the hospital or clinical environment, during emergency land transport, and in the home.

Prescription Use X AND/OR Over-The-Counter Use _____
(Part 21 CFR 801 Subpart D) (21 CFR 801 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE
OF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Page 1 of 1


(Division Sign-Off)

Division of Anesthesiology, General Hospital
Infection Control, Dental Devices

510(k) Number: K083705